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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,971	11/21/2003	Heine Melle Mulder	081468-0306721	8008
909	7590	03/09/2005	EXAMINER	
PILLSBURY WINTHROP, LLP			MATHEWS, ALAN A	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2851	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/717,971

**Applicant(s)**

MULDER ET AL

**Examiner**

Alan A. Mathews

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 10-12 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 4, 8, 9 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 23 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/21/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 7, 10, 11, 12, 14, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (U. S. Patent No. 6,040,894). Takahashi discloses in figure 6 and column 4, lines 9-33, column 7, lines 49-67, and column 8, lines 1-11, a radiation system to provide a projection beam of radiation, the radiation system comprising an illumination system including source 1 and elements 2, 3, 4, 5, 6, 7, and 8 for defining a position dependent intensity distribution of the beam in the pupil plane 14. The intensity distribution is position dependent, since adjusting the position of light source 1 by adjusting mechanism T1, changes the intensity distribution (see column 8, lines 9 and 10). Changing the position of the light source would also change angles of the light beam. The reticule 12 (patterning structure) would be on a reticule table. The wafer or substrate 15 would be on a substrate table. Beam splitter 9 in figure 6 splits off an auxiliary beam. Detector 100 detects information about a position intensity distribution corresponding to the pupil plane 14. With respect to claim 2, the computing means 18 is considered to be the controller, and the position of source 1 with respect to reflector 2 is considered to be the optical element. With respect to claim 17, the integrator 6 homogenizes the

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intensity distribution. With respect to claim 18, regulating the intensity distribution at the pupil plane would regulate the intensity distribution at the substrate.

3. Claims 1, 2, 3, 5-7, 10-12, 14, 15 – 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiozawa (U. S. Patent No. 5,684,567). Shiozawa discloses in figures 1 and 2 and column 4, lines 6-41, a radiation system, a reticule stage 15 (support structure) for reticule 14 (patterning structure), and a substrate table 19 for substrate 17. Figure 1 and column 4, lines 6-41 also discloses a beam splitter 11 splitting off an auxiliary beam, and detector 12 to detect information about the intensity distribution. Element 20 changes the position of integrator 7 to change the light intensity distribution (see column 5, lines 6-23). With respect to claim 2, the optical element would be integrator 7, and the parameter would be its position. It is also noted that figures 14A, 14B, and 15A has an axicon (optical element) 21 and 22 for changing the light intensity distribution, which would be angular dependent (see column 6, lines 65-67, and column 7, lines 1-17). In this case, the parameter would be the distance between optical element 21 and 22. The controller is what operates 20 or the spacing between elements 21 and 22. With respect to claims 6 and 15, the axicon 21 and 22 would be a deconvolution unit.

***Allowable Subject Matter***

4. Claims 4, 8, 9, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

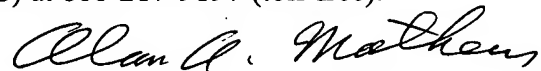
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents cited in the PTO-1449 are cited for the same reasons they were cited in Applicants IDS. The patent to Wangler et al. is cited to show the U.S. equivalent to EP 0687956.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (571) 272-2123. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alan A. Mathews  
Primary Examiner  
Art Unit 2851

AM